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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/652,143

08/29/2003

Robert G. Frank

1881A1

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7590

06/09/2006

PPG Industries, Inc.
Intellectual Property Dept.
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EXAMINER

DEGHAN, QUEENIE S

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/652,143	Applicant(s) FRANK ET AL.	
	Examiner Queenie Dehghan	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 48-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☒ Claim(s) 13 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/29/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Examiner has contacted Andrew Siminerio on May 18, 2006 to indicate an allowance, however, under further consideration, the Office has determined the claimed invention is not patentable and the following rejection is presented.

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-47, drawn to an apparatus for shaping sheets, classified in class 65, subclass 291.
 - II. Claims 48-54, drawn to a method for shaping sheets, classified in class 65, subclass 106.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions Group II and Group I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be prepared by another and by hand.
3. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Art Unit: 1731

4. Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.
5. During a telephone conversation with Andrew Siminerio on May 11, 2006 a provisional election was made with traverse to prosecute the invention of Group 1, claims 1-47. Affirmation of this election must be made by applicant in replying to this Office action. Claims 48-54 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

7. The drawings were received on May 26, 2006. These drawings are accepted.

Specification

8. The disclosure is objected to because of the following informalities:
 - a. The abstract, line 2, "connect" is a grammatical error
 - b. The abstract, line 5, "or" is a typoAppropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

9. Claims 13 and 35 is objected to because of the following informalities: "is includes" is a grammatical error. Claim 1, line 7, "bendable" should be deformable. Claim 1, line 10 "support" should be strap. Claim 22, line 12, "bendable" should be deformable. Claim 22, line 15, "support" should be strap. Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-4, 7, 14-19, 22-26, 29, and 36-41 are rejected under 35 U.S.C. 102(b) as being anticipated by May et al. (5,849,056).

12. Regarding claims 1 and 22, May et al. disclose an upper shaping mold comprising of a downwardly facing shaped surface (30 in fig. 1) and an elevator arrangement to move the upper mold (col. 3 lines 50, 53-55). Furthermore, May et al.

Art Unit: 1731

disclose a lower mold comprising an elevator arrangement for moving the mold (col. 5 lines 45-51), a platform having a major surface (col. 3 line 61, item 40 in fig. 1), a flexible ring with a first and second deformable member mounted on the platform and spaced from the platform and each other and a plurality of flexible straps members (two strap members perpendicular to the first and second deformable members) and having a space between adjacent strap members (col. 3 lines 60, 64 fig. 1), where straps are expected to be connected the deformable members at opposite ends since it has been noted that a ring structure is formed. Furthermore, May et al. disclose a force applying member acting on the deformable members to change the distance between the major surface of the platform and a portion of the deformable members (col. 4 lines 4-6).

13. Regarding claim 23, May et al. disclose a heating furnace with a conveyor on one side of the shaping station (col. 3 lines 17-18, fig. 1), a cooling furnace with a sheet conveying system on the other side of the shaping station and a transfer station between the shaping station and the cooling furnace (col. 3 lines 20-27, fig. 1).

14. Regarding claims 2, 3, 24 and 25, May et al. disclose a pairs of elongated rigid members, spaced from one another, each having an end portion mounted to the first and second deformable member and the opposite end portion mounted on the platform to position the deformable member in a spaced relationship to the major surface of the platform (fig. 1, col. 4 line 40). Furthermore, May et al. disclose force applying members located between the rigid members to change the distance between the deformable members and the surface of the platform (col. 4 lines 4-13, fig. 1).

15. Regarding claims 4 and 26, the deformable members have a first surface facing the major surface of the platform and an opposite second surface and the rigid members are pivotally mounted to the first surface of each deformable member (fig. 1 & 2, col. 6 lines 63-66).

16. Regarding claims 7 and 29, May et al. disclose strap members with a first surface facing the major surface of the platform (40) and an opposite surface defined as a second surface (fig. 1), further comprising at least one wheel in the space between strap members with a shaft interconnecting the wheels and located between the first surface of the strap members and the surface of the platform, and a displacement system to move the wheels and straps relative to one another (col. 5 lines 48-52, col. 6 lines 31-42).

17. Regarding claims 14, 15, 36 and 37, May et al. disclose elongated deformable members with flat major surfaces and parallel long axis and elongated strap members with flat major surfaces and parallel long axis, which are normal to the long axis of the deformable members (fig. 1). Furthermore, May et al. disclose that the strap members are spring steel substrates having a plastic covering (col. 4 lines 27-28, 34-36).

18. Regarding claims 15-17 and 38-40, May et al. disclose in figure 2 a biasing device (42) mounted on the surface of the platform (40) and a telescoping rod (54, which traverses in and out of body 42) with a end portion connected to the biasing device and the other end connected to the deformable members via the slot of the plate (at 58) mounted at the deformable member (48). Furthermore, May et al. disclose an electrically powered motor as the biasing device (col. 4 lines 39-48).

Art Unit: 1731

19. Regarding claims 19 and 41, May et al. disclose elongated strap members with a flat major surface facing away from the platform and are spring steel substrates having a plastic covering (col. 4 lines 27-28, 34-36, fig. 1).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

22. Claims 5, 6, 13, 27, 28, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056), as applied to claims 2 and 24 above, in view of Goolsbay et al. (5,695,538). May et al. disclose an elevator mounted on the platform (col. 3 lines 60-62, col. 4 lines 4-13) but do not disclose a support member mounted between the platform and the first and second deformable members. Goolsbay et al.

teach a support member (44) mounted between the platform and the first and second deformable members, slideably mounted pull rods having an end portion connected to the deformable members (42) located between pairs of rigid members (84) and the other end defined as a second end portion of the pull rod connected to the support member (figures 3 and 4, col. 3 lines 22-23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the support member and slideable pull rods of Goolsbay et al. with the elevator on the platforms in the apparatus of May et al. in order to progressively bend the flexible ring of May et al. before being fully pressed against the upper mold, as taught by Goolsbay et al. Furthermore, May et al. disclose at least one conveying rolls with a unitary portion of shafts and wheels (24) in figure 1.

23. Claims 8, 9, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056), as applied to claims 7 and 29 above, in view of Kelly (4,830,650). May et al. disclose a plurality of conveying rolls with wheels (24) between the strap members and a shaft that is connected to a motor for the rotation of the wheels (fig. 1, col. 6 lines 14-16), but do not disclose a wheel on the outer side of the outer strap members. Kelly teach using a wheel on the outer side of the ring perimeter (col. 5 lines 18-22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a wheel on the perimeter of the ring of May et al. in order support the perimeter of the glass, as taught by Kelly. Furthermore, May et al. disclose a displacement system that moves the platform to move the strap members from the first position to the second position (col. 7 lines 44-46, col. 6 lines 31-34).

Art Unit: 1731

24. Claims 10 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056) in view of Kelly (4,830,650) as applied to claims 9 and 31 above, and further in view of Ritter, Jr. (3,527,589). May et al. disclose the movement of the platform toward and away from the conveying rolls (col. 6 lines 28-35), but do not disclose a support structure for the conveying rolls. Ritter, Jr. teach mounting conveying rolls for a sheet shaping apparatus on a support structure (35) in figure 2 (col. 3 lines 22-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the support structure of Ritter, Jr. in the apparatus of May et al. and Kelly in order to offer support for the conveying rolls.

25. Claims 11, 12, 33, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056) in view of Kelly (4,830,650), as applied to claims 8 and 30 above, and further in view of Goolsbay et al. (5,695,538) and Meunier et al. (5,833,729). May et al. disclose a displacement system mounted on the platform (col. 3 lines 60-62, col. 4 lines 4-13) and a force applying members for moving the deformable members toward the major surface of the platform (col. 5 lines 7-9) but do not disclose a support member mounted between the platform and the strap members. Goolsbay et al. teach a support member (44) with a first surface facing the platform (46) that is mounted between the platform and the strap members and a displacement device (82 & 84) that is mounted to the platform and to the support member for the movement of the support member, but not the shafts of the conveying rolls (figure 1). Meunier et al. teach mounting conveying rolls on a support member (46) and also the movement of the rolls toward and away from ring, from a first position to a second

position (col. 4 lines 30-31, 48-52, fig. 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the displacement system of Goolsbay et al. to move the support member and the conveying rolls as taught by Meunier et al. in the apparatus of May et al. in order to properly transfer the glass onto the mold.

26. Claims 20 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056), as applied to claims 19 and 41 above, in view of Black et al. (2,239,546). May et al. do not disclose springs connecting the strap members to the deformable members. Black et al. teach of attaching flexible wires to a sheet bending frame via springs (44) in figure 6 (page 2 lines 64-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the springs of Black et al. in the connection of the strap members of May et al. in order to allow for proper tensioning.

27. Claims 21 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056), as applied to claims 19 and 41 above, in view of Honjo et al. (4,927,443). May et al. do not disclose nuts and bolts connecting the strap members to the deformable members. Honjo et al. teach attaching straps for bending glass sheets to molding frame via nuts and bolts in fig. 4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the nuts and bolts of Honjo et al. in the connection of the strap members of May et al. in order to properly secure the straps to the members.

Art Unit: 1731

28. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056), as applied to claim 23 above, in view of Gulotta (3,409,422). May et al. do not disclose conveying wheels mounted on one side of the outer strap members. Gulotta teach of a gas furnace where the sheet bending section line a plane having a slope toward conveying wheels mounted at one side of the glass sheet and molding section (col. 2 lines 42, 47-52, col. 3 line 75 to col. 4 line 1, col. 4 lines 43-50, fig. 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the sloped molding member and conveying wheels mounted on the edge of Gulotta in the sheet bending apparatus of May et al. in order to primarily engage only the edge of the glass sheet for handling.

29. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056), as applied to claim 22 above, in view of Schultz (4,773,925). May et al. do not disclose a platform mounted on wheels to move the lower mold in to and out of the shaping station. Schultz teaches a lower mold mounted wheels. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the a lower mold mounted on wheels, as taught by Schultz, in the sheet bending apparatus of May et al. in order allow for easier moving of the lower mold and substitution of the lower mold.

30. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056) in view of Kelly (4,830,650) and Ritter, Jr. (3,527,589), as applied to claim 32 above, in further view of Schultz (4,773,925). May et al., Kelly and Ritter, Jr. disclose a platform, conveyor rolls and a displacement system, which is mounted to the

shaping station of fig. 1 of May et al. However, they fail to disclose mounting the platform and conveyor rolls on wheels. Schultz teaches a lower mold comprising of a platform and conveying rolls that is mounted on wheels. It would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the platform and conveying wheels of May et al. and Ritter, Jr. on wheels, as taught by Schultz in order allow for easier moving of the lower mold and substitution of the lower mold into and out of the displacement device of the shaping station of May et al, Kelly, and Ritter, Jr.

31. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over May et al. (5,849,056) in view of Kelly (4,830,650) and Ritter, Jr. (3,527,589), as applied to claim 32 above, in further view of Schultz (4,773,925). May et al., Kelly and Ritter, Jr. disclose a platform, conveyor rolls and a displacement system, but do not disclose mounting them on wheels to move the lower mold in to and out of the shaping station. Schultz teaches a lower mold mounted wheels. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the a lower mold mounted on wheels, as taught by Schultz, in the sheet bending apparatus of May et al., Kelly and Ritter, Jr. in order allow for easier moving of the lower mold and substitution of the lower mold.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is

Art Unit: 1731

(571)272-8209. The examiner can normally be reached on Monday through Friday
8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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